CALIFORNIA INSTITUTE
of TECHNOLOGY

One Hundred Thirteenth Annual Commencement
and Inauguration of President Jean-Lou A. Chameau
June 8, 2007
One Hundred Thirteenth
Annual Commencement

and

Inauguration of President
Jean-Lou A. Chameau

Friday Morning at Ten O’Clock
June Eighth, Two Thousand Seven
In his diary entry of September 1, 1891, Pasadena philanthropist Amos Throop wrote, “Planted potatoes, cleaned a water pipe, husked the corn . . . . In afternoon, saw Mr. Wooster and rented his block for five years . . . and hope I have made no mistake.” Were he here today, Throop could rest assured in his decision, for the building of which he wrote, the Wooster Block, was rented for the purpose of establishing Throop University—the forerunner of Caltech.

In November of that year, Throop University opened its doors to 31 students and a six-member faculty. Could anyone have imagined then that the school would become a world center for science and engineering research and education? Perhaps, for in the first year, the board of trustees began to reconsider the mission of the school. In 1892, they decided to emphasize industrial training, and in 1893, reflecting this new focus, renamed the school Throop Polytechnic Institute.

Throop might have remained just a good local school had it not been for the arrival in Pasadena of George Ellery Hale. A faculty member at the University of Chicago and a noted astronomer, Hale settled here in 1903. From that time until his death in 1938, he made significant contributions to Pasadena and Southern California: he established the Mount Wilson Observatory, raised funds for Palomar Observatory and its 200-inch telescope, participated in the creation of the Huntington Library and Art Collections, helped design the Civic Center in downtown Pasadena, and—perhaps his single greatest achievement—
set the course for the development of Throop into the California Institute of Technology, a school he envisioned as a scientific institution of the highest rank.

In 1913, Hale convinced Arthur Amos Noyes, professor of chemistry and former president of the Massachusetts Institute of Technology, to join him in Pasadena. With the arrival in 1917 of Robert Andrews Millikan, professor of physics at the University of Chicago, Hale had assembled the founders of the new institution. The world center of scientific and engineering research and education he had imagined soon took shape under a new name, the California Institute of Technology, administered by Millikan and enriched with the scientific talents of Noyes and his faculty colleagues.

And amazing things indeed have happened at Caltech over the years. Theodore von Kármán developed the principles that made jet flight possible, Charles Richter published his logarithmic scale for measuring the magnitude of earthquakes, and astronomer Maarten Schmidt discovered the nature of quasars. Here Linus Pauling determined the nature of the chemical bond, Max Delbrück conducted the studies of bacterial viruses that led to a new branch of biology called molecular genetics, Murray Gell-Mann theorized that all particles are made up of quarks and anti-quarks, and Roger Sperry developed new insights into the implications of right-brain and left-brain functions. Nor were the faculty alone in changing the world; Caltech alumni have had great impact as well. Charles Townes developed the laser; Chester Carlson invented Xerography; David Ho pioneered the use of drug “cocktails” in AIDS treatment; and Gordon Moore helped found the semiconductor industry. Some alumni, like Simon Ramo and Ben Rosen, have made their mark in the business world, while others have become astronauts, university presidents, government leaders, writers, film directors—even performance artists. Thanks to the accomplishments of people like these, Caltech’s influence has been both broad and deep.

Caltech today has a 124-acre campus and operates seven off-campus
astronomical, seismological, and marine biological facilities, and administers NASA’s Jet Propulsion Laboratory as well. At present, the Institute has an enrollment of some 2,000 students, more than half of whom are in graduate studies; about 290 professorial faculty members, including five Nobel laureates and three Crafoord laureates; and about 65 research faculty members. Today Caltech will award 171 students the B.S. degree; 108 students the M.S. degree; and 206 doctoral candidates the Ph.D. degree, for a total of 485 graduates—quite a leap from the one man and one woman who constituted the first collegiate graduating class of Throop Polytechnic Institute.
These tribal rites have a very long history. They go back to the ceremony of initiation for new university teachers in mediaeval Europe. It was then customary for students, after an appropriate apprenticeship to learning and the presentation of a thesis as their masterpiece, to be admitted to the Guild of Masters of Arts and granted the license to teach. In the ancient University of Bologna this right was granted by authority of the pope and in the name of the Holy Trinity. We do not this day claim such high authority.

As in any other guild, whether craft or merchant, the master’s status was crucial. In theory at least, it separated the men from the boys, the competent from the incompetent. On the way to his master’s degree, a student might collect a bachelor’s degree in recognition of the fact that he was half-trained, or partially equipped. The doctor’s degree was somewhat different. Originally indistinguishable from the master’s, the doctor’s gradually emerged by a process of escalation into a super magisterial role—first of all in the higher faculties of theology, law, and medicine. It will come as no surprise that the lawyers had a particular and early yen for this special distinction.

These graduations and distinctions are reflected in the quaint and colorful niceties of academic dress.

Of particular interest is the cap or mortarboard. In the form of the biretta it was the peculiar sign of the master. Its use has now spread far beyond
that highly select group to school girls and choir boys and even to the nursery school. *Sic transit* . . .

The gown, of course, is the basic livery of the scholar, with its clear marks of rank and status—the pointed sleeves of the bachelor, the oblong sleeves of the master, the full sleeves and velvet trimmings of the doctor. The doctors, too, may depart from basic black and break out into many colors—Harvard crimson or Yale blue or the scarlet splash of Oxford.

Color is the very essence of the hood: color in the main body to identify the university; color perhaps in the binding to proclaim the subject of the degree—orange for engineering, gold for science, the baser copper for economics, white for arts and letters, green for medicine, purple for law, scarlet for theology, and so on. Size is a further variable, as the hoods tend to lengthen from the three feet of the bachelor to the four of the doctor. So the birds are known by their plumage.

With this color and symbolism, which is mediaeval though mutated, we stage our brief moment of pageantry, paying homage to that ancient community of scholars in whose shadow we stand, and acknowledging our debt to the university as one of the great institutional constructs of the Middle Ages. While looking back, however, we also celebrate the achievements of this present generation of students and look forward to the future of these our younger colleagues, whom we now welcome to our midst.

*David C. Elliot*

*Professor of History, Emeritus*
TODAY DR. JEAN-LOU CHAMEAU will officially assume the mantle as the eighth president of the California Institute of Technology. “Beginning his presidency as part of the 2007 graduation ceremony sets a clear tone of commitment to our faculty, students, and staff,” said Chairman of the Board Kent Kresa. “He joins a list of very distinctive scientists and engineers who have positioned this institution as one of the very best in the world.”

Before assuming his duties as Caltech’s president on September 1, 2006, Chameau was provost at the Georgia Institute of Technology, where he had programmatic, strategic, and financial responsibilities for the academic and research programs of the university, including the Georgia Tech Research Institute. His office also oversaw the university’s continuing and executive education, economic development, and commercialization programs.

While provost at Georgia Tech, Chameau provided vision and administrative leadership for enhancing the university’s academic and research programs and promoting its efforts in executive education, economic development, and technology commercialization. He developed a model for interdisciplinary education and research, innovation, and entrepreneurship, and promoted these activities as catalysts for education and economic development.

Chameau has always placed a strong emphasis on improving the educational experience of students, increasing diversity, and fostering research, entrepreneurial, and international opportunities for faculty and students.
He also championed programs that made Georgia Tech a leader in educating minority engineering students and in recruiting and retaining female faculty. Bren Professor of Biology Henry Lester said that “Jean-Lou Chameau comes to Caltech with a reputation for deep interest in and effective attention to faculty and student issues. His vision and energy have led to productive ties with international institutions and with industry.”

A Georgia Research Alliance Eminent Scholar and Hightower Professor at Georgia Tech, Chameau was formerly dean of the Georgia Tech College of Engineering. He led educational and research programs in nine engineering disciplines—all of which have received national recognition and collectively confer the nation’s largest number of engineering degrees on undergraduate and graduate students.

His technical interests include sustainable technology, environmental geotechnology, and earthquake engineering. He has received the NSF’S Presidential Young Investigator Award, the ASCE’s A. Casagrande Award, and the Society of Women Engineers’ Rodney Chipp Memorial Award. Chameau serves on the boards of MTS Systems Corporation, Prime Engineering, and l’École Polytechnique in Paris.

After completing his undergraduate education in France and his doctorate in civil engineering at Stanford, Chameau joined the faculty at Purdue University, rising to full professor and head of the geotechnical engineering program. He became the director of Georgia Tech’s School of Civil and Environmental Engineering in 1991, and from 1994 to 1995, he was president of Golder Associates, an international geotechnical consulting company. Chameau is married to Dr. Carol Carmichael, formerly the director of the Institute for Sustainable Technology and Development at Georgia Tech, where she had been for almost 20 years.

“Jean-Lou Chameau impressed us with his intelligence, his vision, his
personality, and his extensive administrative and fund-raising experience and success,” said David Stevenson, Van Osdol Professor of Planetary Science and head of the faculty search committee. “We believe that he is well suited to the challenges and opportunities of the Caltech presidency in a time of change in the global environment of science, technology, and education. We expect him to be an engaging and energizing presence in our community of faculty, students, and staff, including the Jet Propulsion Laboratory.”
Dr. Jared Diamond is an evolutionary biologist, physiologist, biogeographer, and Pulitzer Prize–winning author of *Guns, Germs, and Steel* and most recently *Collapse: How Societies Choose to Fail or Succeed*. Diamond tackles the big questions: Why do some societies thrive and prosper while others shrivel and die? How can humanity maximize the opportunity for human happiness while saving the planet from ecological ruin? Are there lessons we can learn from other great civilizations?

“I’ve set myself the modest task of trying to explain the broad pattern of human history, on all the continents, for the last 13,000 years,” says Diamond. “Why did history take such different evolutionary courses for peoples of different continents? This problem has fascinated me for a long time, but it’s now ripe for a new synthesis because of recent advances in many fields seemingly remote from history, including molecular biology, plant and animal genetics, and biogeography, archaeology, and linguistics.”

Renowned as the author of a number of popular science works that combine anthropology, biology, linguistics, genetics, and history, Diamond is best known for his bestselling book *Guns, Germs, and Steel* (1997), which asserts that the main international issues of our time are legacies of processes that began during the early-modern period, in which civilizations that had experienced an extensive amount of “human development” began to intrude upon simpler civilizations around the world.
In his most recent book, *Collapse: How Societies Choose to Fail or Succeed* (2005), Diamond examines what caused some of the great civilizations of the past to collapse into ruin, and he considers what contemporary society can learn from their fates.

He speaks a dozen languages, and his books rely on fields as diverse as molecular biology and archaeology, as well as knowledge about typewriter design and feudal Japan. His field experience includes 22 expeditions to New Guinea and neighboring islands to study ecology and the evolution of birds; rediscovery of New Guinea’s long-lost goldenfronted bowerbird; and other field projects in North America, South America, Africa, Asia, and Australia. As a conservationist he devised a comprehensive plan, almost all of which was implemented, for Indonesian New Guinea’s national park system, and carried out numerous field projects for the Indonesian government.

Currently a professor of geography at UCLA, Diamond earned his bachelor’s degree at Harvard University in 1958 and his Ph.D. in physiology and membrane biophysics at the University of Cambridge in 1961. He has received numerous awards, among them a MacArthur Foundation “genius” Fellowship, the Conservation Medals of the Zoological Society of San Diego, Japan’s International Cosmos Award, the prestigious Tyler Prize for Environmental Achievement, and a National Medal of Science for his research and discoveries in evolutionary biology. He is also a recipient of research prizes of the American Physiological Society and National Geographic Society, and many teaching awards and endowed public lectureships. He is a member of the American Philosophical Society, the American Academy of Arts and Sciences, and the National Academy of Sciences, and is also the U.S. regional director of the World Wildlife Fund.


**Academic Procession**

*Chief Marshal*

Cindy Weinstein, Ph.D.

*Marshals*

Michael E. Brown, Ph.D.
Judith L. Campbell, Ph.D.
Barbara C. Green, Ph.D.
John F. Hall, Ph.D.
Melany L. Hunt, Ph.D.
Henry A. Lester, Ph.D.
David B. Wales, Ph.D.

*Faculty Officers*

Henry A. Lester, Ph.D.
Judith L. Campbell, Ph.D.
David B. Wales, Ph.D.

**Marching Order**

Candidates for the Degree of Bachelor of Science
Candidates for the Degree of Master of Science
Candidates for the Degree of Doctor of Philosophy
Delegates from Academic Institutions and Learned Societies

Faculty Officers

The Faculty
The Chairs of the Divisions
The Provost
The Vice Presidents
The Presidents Emeriti
The Trustees
The Speakers
The President
The Chairman of the Board of Trustees
Organ Prelude
Leslie J. Deutsch, Ph.D.

Processional
The Caltech Convocations Brass and Percussion Ensemble
William W. Bing, M.M., Conductor

Presiding
Kent Kresa
Chairman of the Board of Trustees

Investiture of the President
Chairman Kresa

Welcome to the New President
Richard Hayden Jones
Undergraduate Student

Inaugural Remarks
Jean-Lou A. Chameau, Ph.D.
President

Commencement Speaker
“The Next 50 Years”
Jared Diamond, Ph.D.
Professor of Geography
University of California, Los Angeles

Choral Selection
“There’s Just One”
music by George Frideric Handel,
lyrics by K. Giapis and D. Caldwell
(Lyrics are on page 58.)
The Caltech Glee Clubs
L. Desiree LaVertu, M.M., Conductor

Conferring of Degrees
President Chameau

Presentation of Candidates for Degrees
For the Degree of Bachelor of Science
John F. Hall, Ph.D.
Dean of Students
Acting Vice President for Student Affairs

For the Degree of Master of Science
Michael R. Hoffmann, Ph.D.
Dean of Graduate Studies
For the Degree of Doctor of Philosophy

Biology

Christof Koch, Ph.D.
Executive Officer for Neurobiology

Chemistry and Chemical Engineering

David A. Tirrell, Ph.D.
Division Chair

Engineering and Applied Science

David B. Rutledge, Ph.D.
Division Chair

Geological and Planetary Sciences

Kenneth A. Farley, Ph.D.
Division Chair

The Humanities and Social Sciences

David M. Grether, Ph.D.
Interim Division Chair

Physics, Mathematics and Astronomy

Thomas A. Tombrello, Ph.D.
Division Chair

ANNOUNCEMENT OF AWARDS AND CONCLUDING REMARKS

President Chameau

ALMA MATER

“Hail CIT”
by Manton Barnes, B.S. ’21 E.E.
(The audience may join in; lyrics are on page 60.)

RECESSIONAL

The Caltech Convocations Brass and Percussion Ensemble

Organ Postlude

Dr. Deutsch

Video footage of commencement may be viewed on the Caltech website at http://www.caltech.edu/commencement. Broadcast is scheduled to begin after 3:00 p.m.
Candidates for Degrees

Bachelor of Science

James Adler*  Memphis, Tennessee  Physics and English
Grigori Avramidi*  Socorro, New Mexico  Mathematics
Andrew Vincent Baldwin  Downey, California  Mechanical Engineering
Shai Barak*  East Brunswick, New Jersey  Electrical Engineering
Chandra Moncoeur Barnett  Galloway Township, New Jersey  Computer Science
Daniel Paul Barroll  Albany, California  Mathematics
James William Berglund*  Beavercreek, Ohio  Mathematics
Daniel Robert Birt*  Fort Worth, Texas  Physics
Sanjeeb T. Bose*  Kent, Ohio  Mechanical Engineering
Patrick L. Boyle  Weatherford, Texas  Electrical Engineering
Benny Chan*  Brooklyn, New York  Physics
Shelley Hsiao-I Chang†  Richardson, Texas  Chemistry
Alekandr Chechkin  Brooklyn, New York  Physics
Jing Chen*  Las Vegas, Nevada  Computer Science
Yijia Chen*  Cypress, California  Biology
Gary Chia Li Cheng*  Honolulu, Hawaii  Physics
Evelyn Joyce Cheung*  Pasadena, California  Biology
Catherine S. Chou  New City, New York  Electrical Engineering
Colin Chrystal  Mission Viejo, California  Applied Physics
Kevin Cossel  Idaho Falls, Idaho  Chemistry and Physics
Adam George Craig  Los Angeles, California  Computer Science
William Park Cram  Columbia, South Carolina  Economics
Meghan Ruth Crowley*  Foster City, California  Geochemistry
Franziska Dammeier*  Tubingen, Germany  Geophysics
Neha Monica Das*  Chandler, Arizona  Biology and Philosophy
Rahul Deb*  West Linn, Oregon  Electrical Engineering
Doyl Edward Dickel*  Central, South Carolina  Physics
Nhattrieu Chan Duong  Torrance, California  Mechanical Engineering
Mark Eichenlaub†  Kingsville, Maryland  Physics
Sukhada Sharad Fadnavis*  Pune, India  Mathematics
Hamilton E. Falk*  Drexel Hill, Pennsylvania  Geology
Matthew David Fisher*  Charlotte, North Carolina  Computer Science

* Students whose names are followed by an asterisk are being graduated with honor in accordance with a vote of the faculty.
† Students whose names are followed by a dagger are close to completion and will receive diplomas when all graduation requirements are met.
Bachelor of Science continued

Mark Freeman-Aloia† Huntington Beach, California Engineering and Applied Science
Daniel Fu* Ellicott City, Maryland Applied and Computational Mathematics
Issac Garcia-Munoz Lake Forest, California Electrical Engineering
Jonathan William Gardner Yreka, California Engineering and Applied Science (Materials Science) and Social Science
Jaime Bango Garnica Port Charlotte, Florida Electrical Engineering
Elizabeth Ann Gilliam† La Cañada, California Biology
Arcady Goldmits-Orlov New York City, New York Computer Science
Benjamin Golub* Columbus, New Jersey Mathematics
Yuan Gong* Chicago, Illinois Chemical Engineering (Biomolecular) and Applied and Computational Mathematics
Jeffrey John Graham* Manitou Spring, Colorado Physics and History
Steven Robert Gray* Peoria, Arizona Mechanical Engineering and Control and Dynamical Systems (Minor)
Shannon Elizabeth Greene* Austin, Texas Geobiology
Alexandria Yvette Grubbs Reno, Nevada Mechanical Engineering
Lily Gruenke Lafayette, California Engineering and Applied Science
Clark Gu Saint Louis, Missouri Economics and Mathematics
Erin Kristine Hartman Austin, Texas Economics and Political Science
Elena Harootonian† Teheran, Iran Applied Physics
Matthew Bennett Hartshorn Lafayette, California Physics
Ekaterina Harvard* Great Neck, New York Electrical Engineering
Kenneth Heafield* Bloomfield Hills, Michigan Mathematics and Computer Science
Zachary Allen Henson San Antonio, Texas Mathematics
Kenneth L. Ho* Union City, California Applied and Computational Mathematics
Chen Pin Ryan Huang Arcadia, California Electrical Engineering
Wei Huang West Hempstead, New York Mechanical Engineering
Alexander G. Huth Ojai, California Engineering and Applied Science (Computational and Neural Systems)
Nicholas Richard Hutzler* La Crosse, Wisconsin Mathematics
Michael Ikeda Santa Paula, California Mechanical Engineering
Michael Brian Jankauski Poway, California Electrical Engineering
John Michael Jester Coronado, California Electrical Engineering
Jimmy Zhe Jia* San Jose, California Engineering and Applied Science (Computational and Neural Systems)
Scott David Jordan Orange, California Mechanical Engineering
Thomas Edward Jurczak Davidsonville, Maryland History
Dmitrii Kamalov Pasadena, California Physics
Anthony David Kelman* Redmond, Washington Mechanical Engineering
Bachelor of Science continued

Si Hyun Kim  Irvine, California  Biology
Yuki Kimura  Closter, New Jersey  Chemical Engineering (Materials)
Jacob Leonard King*  San Diego, California  Applied and Computational Mathematics and Economics
Daniel Thomas Knoepfle*  Arlington Heights, Illinois  Economics
Huaising Cindy Ko†  San Diego, California  Mechanical Engineering
Michael Justin Kocurek*  Hilton Head Island, South Carolina  Computer Science
Michael Kolodrubetz*  San Antonio, Texas  Physics
Jeffrey Steven Kranski  Castle Rock, Colorado  Mechanical Engineering
Yuliya Kuznetsova  Kirkland, Washington  Physics
Sy Tanapun Labthavikul†  New York City, New York  Engineering and Applied Science (Environmental Science and Engineering)
Christine Ruey Shan Lee  Taichung, Taiwan  Mathematics
Jack Jih-chin Lee*  Columbia, Ohio  Biology
Warner Carter Leedy III*  Columbus, Ohio  Computer Science
Wei Li*  Fo Shan, People's Republic of China  Electrical Engineering
Diana Lin  Huntington Beach, California  Chemical Engineering (Biomolecular)
Kelly Ying Lin*  Alhambra, California  Biology and English (Minor)
Jonathan C. Liong  San Clemente, California  Biology
Daniel S-D Liu  Little Rock, Arkansas  Economics
David S. Liu*  Cerritos, California  Chemical Engineering (Materials)
Victor Liu*  Cupertino, California  Electrical Engineering
Leyan Lo*  Basking Ridge, New Jersey  Physics
Po-Ru Loh*  Madison, Wisconsin  Mathematics
Ghyn William Loveness*  Vashon, Washington  Mechanical Engineering
Sixin Samantha Lu*  Boston, Massachusetts  Biology and Social Science
Zhong Yi Lu  Shangrao, People's Republic of China  Chemistry and History
George S. Luo  Harbin, People's Republic of China  Biology
Wen Mao*  Tianjin, People's Republic of China  Physics
Joseph M. McDonnell*  Peoria, Illinois  Computer Science
Daniel Michael McLaury  Norman, Oklahoma  English
Gian Solworth Merlino  New York City, New York  Computer Science
Jonah Michaud  Los Angeles, California  Physics
Paul J. Miller*  Rockwall, Texas  Electrical and Computer Engineering and Control and Dynamical Systems (Minor)
Evan Adrian Robjohn Murphy†  Lutherville, Maryland  Computer Science
Lydia Won Ying Ng*  Libertyville, Illinois  Chemistry
Huong Ngoc-Thien Nguyen  San Jose, California  Biology
Li Ni*  San Gabriel, California  Biology
Rodolfo Nunez  San Fernando, California  Applied Physics  
Daniel Crozier Oliver  Sacramento, California  Mechanical Engineering and Business Economics and Management  
Yingkai Ouyang*  Singapore  Physics  
Alex Padilla  Huntington Beach, California  Chemical Engineering (Environmental)  
Mykyta Andriyovych Panasenko  Kiev, Ukraine  Physics  
Benjamin Vincent Park*  Ulsan, South Korea  Biology  
Siddharth Patel*  Santa Clara, California  Computer Science  
Jeffrey Alan Phillips  San Carlos, California  Business Economics and Management  
Arturo Alejandro Pizano  Belle Mead, New Jersey  Chemistry  
Daniel Yuenheen Poon†  Ann Arbor, Michigan  Biology  
Thomas Quetchenbach*  Pasadena, California  Electrical Engineering  
Jon Valentín Ramírez  El Paso, Texas  Electrical Engineering  
Kurtis Ryan Ras  Pasadena, California  Mechanical Engineering  
Iva Petrova Rashkova*  Ruse, Bulgaria  Mathematics and Economics  
Royal Anne Reinecke*  Alpharetta, Georgia  Physics  
Catherine Nicole Roop*  Albuquerque, New Mexico  Biology and English  
Rudra Amadeus Roy  Pasadena, California  Mechanical Engineering  
Leonid Rozenberg  Oceanside, New York  Engineering and Applied Science  
Emily Russell*  Yorktown Heights, New York  Physics  
Yernur Rysmagambetov  Zhezkazgan, Kazakhstan  Business Economics and Management  
John Paul Sadowski*  Glen Head, New York  Chemistry and History and Philosophy of Science (Minor)  
Carlos García Saldana  South El Monte, California  Chemical Engineering (Materials)  
David Sanford*  Denver, Colorado  Physics  
Emma Rose Schmidgall*  Golden Valley, Minnesota  Physics and History  
Gregory Sickler Schmidt  Petaluma, California  Chemical Engineering (Materials)  
Jonathan Senn  Coral Springs, Florida  Mathematics  
Eliot Gehrt Setzer*  Salt Lake City, Utah  Computer Science  
Benjamin John Sexson*  Athens, Greece  Mechanical Engineering  
Chelsea Electra Sharon  Grass Valley, California  Astrophysics  
Jeffrey E. Shaw*  San Diego, California  Computer Science  
Elizabeth Shay  Wilmette, Illinois  Biology  
Janet Yue Hung Sheung  Foster City, California  Physics  
Amanda Leanne Silberstein*  Fair Oaks, California  Chemistry  
David Joseph Simenc  Chico, California  Astrophysics  
Preetha Keya Sinha*  Worthington, Ohio  Biology and Chemistry and English (Minor)  
Ryan Wesley Sinnet  Carmel, California  Electrical Engineering  
William David Sladek*  San Marcos, Texas  Mathematics
Bachelor of Science continued

Alexander Soibelman  Manhattan, Kansas  Mathematics
Micah Daniel Solomon  Minneapolis, Minnesota  Physics
Gregory Conrad Stachelek*  Erie, Pennsylvania  Biology and Chemistry
Harrison Samuel Stein*  Highland Park, Illinois  Applied and Computational Mathematics
Elisabeth Streit*  Jupiter, Florida  Geology
Rebecca Lydia Streit*  Jupiter, Florida  Geology
Andreea Daniela Stuparu*  Bals, Romania  Chemistry
Jean Elizabeth Sun  Beaverton, Oregon  Biology and English
Ruoshan Sun  Rosemead, California  Biology
Klementyna Szwaykowska*  Tucson, Arizona  Physics
Cameron P T Taketa*  Honolulu, Hawaii  Mathematics
Vera Louise te Velde*  Stillwater, Oklahoma  Economics and Mathematics
Simona Tescu*  Iasi, Romania  Biology
Dalina Lakshmi Thrift-Viveros  Long Beach, California  Chemistry
Paul Vincent Tomassi*  Cathedral City, California  Mechanical Engineering
Truong-Dzuy Edward Truong-Cao*  Houston, Texas  Mechanical Engineering
Joseph Steven Vega†  Tucson, Arizona  Engineering and Applied Science
Raquel Dagmar Vélez  Kendall Park, New Jersey  Mechanical Engineering
Randall D. Wald  Ft. Lauderdale, Florida  Biology
Helena X. Wang*  San Francisco, California  Engineering and Applied Science
(Computational and Neural Systems)
Zhan Jane Wang*  San Jose, California  Chemistry
Kristen Michelle Ward  Tucson, Arizona  Engineering and Applied Science (Structural Mechanics)
David Triest Waylonis  Redwood City, California  Computer Science and Business Economics and Management
Scott Harris Batchelder Wilbur  Andover, Massachusetts  Physics
Jonathan B Winn  Greenville, North Carolina  Applied and Computational Mathematics
Ryan Christopher Witt  Simi Valley, California  Computer Science
Matthew M. Wrotten  Baton Rouge, Louisiana  Mathematics
Huan Yang*  Changsha, People’s Republic of China  Physics
Xin Thomas Ye*  Plano, Texas  Biology and Business Economics and Management and English (Minor)
Daniel Eugene Yi*  Redondo Beach, California  Applied and Computational Mathematics and Business Economics and Management
Graham C. Yoakum  Cary, North Carolina  Computer Science
Ryan N. Yoakum  Cary, North Carolina  Computer Science
James Daegun Yoon  Overland Park, Kansas  Chemical Engineering (Environmental)
William Charles Young  Estero, Florida  Mathematics
Bachelor of Science continued

Christopher Yu*  San Jose, California  Engineering and Applied Science (Aeronautics)
Wing Ning Yung*  Sierra Madre, California  Chemistry
Rumen Ivanov Zarev*  Sofia, Bulgaria  Mathematics
William Zdon  Miami, Florida  Engineering and Applied Science (Computational and Neural Systems)
Gus Qiong Zhang  Dallas, Texas  Biology
Yi-Nan Zhang  San Leandro, California  Electrical Engineering
Nan Zhou*  Nanjing, People’s Republic of China  Economics and Computer Science
Yifan Zhou*  Beijing, People’s Republic of China  Electrical Engineering and Physics
Master of Science

Fabio Altenbach (Astrophysics) B.S., University of California, Los Angeles 2005.
Mohamed Alaa El-Dien Mahmoud Hussein Aly (Electrical Engineering) B.Sc., Cairo University 2003.
Carl David Aschenbrenner (Chemical Engineering) B.S., University of California, Berkeley 2005.
Anna Rose Beck (Environmental Science and Engineering) B.S., Denison University 2004.
Philipp Andreas Boettcher (Aeronautics) B.S., Purdue University 2006.
Michael Patrick Brochu (Chemistry) B.S., College of William and Mary 2002.
Angela Maria Capece (Aerospace Engineering) B.S., Lehigh University 2005.
Martina Nini Carbone (Chemical Engineering) B.S., University of Wisconsin, Madison 2005.
Arthur Wing Hong Chan (Chemical Engineering) B.S., University of Pennsylvania 2005.
Yan Chen (Electrical Engineering) B.S., Tsinghua University 2002.
Yvonne Yu-Hsuan Chen (Chemical Engineering) B.S., Stanford University 2004.
Sam Cheung (Chemistry) B.S., California State University, Los Angeles 1999.
Puneet Singh Chhabra (Chemical Engineering) B.S. (Mathematics), B.S. (Chemical Engineering), University of Illinois at Urbana-Champaign 2005.
Carl Wing-Jang Chin (Electrical Engineering) B.S., California Institute of Technology 2005.
Angela M. Cho (Civil Engineering) B.S., Harvey Mudd College 2005.
Eileen Yilin Chou (Social Science) B.A., University of California, Los Angeles 2005.
William Kratz Coulter (Electrical Engineering) B.S., California Institute of Technology 2006.
Leopold Daniel d’Espaux (Chemical Engineering) B.S., Cornell University 2005.
Mary Aileen Devlin (Biochemistry and Molecular Biophysics) B.S., Worcester Polytechnic Institute 2001.
Andrew Joseph Downard (Chemical Engineering) B.S., M.B.A., University of Notre Dame 2004.
Matthew Scott Eichenfield (Physics) B.S., University of Nevada, Las Vegas 2004.
Travis Joseph Essl (Aeronautics) B.S., Texas A&M University 2006.
Claire Elizabeth Farnsworth (Environmental Science and Engineering) B.S., Washington University 2005.
Kate Elizabeth Galloway (Chemical Engineering) B.S., University of California, Berkeley 2005.
Ha Thanh Giang (Mechanical Engineering) B.S., Vietnam National University 2004.
Heather Mary Audrey Gray (Physics) B.S. (Computer Science, Mathematics, and Physics), University of Cape Town 2001; B.Sc. (Theoretical Physics), 2002; M.S., 2003.
Bonnie Colleen Gurry (Mechanical Engineering) B.S., Columbia University 2006.
Paul Hebert (Aerospace Engineering) B.E., McGill University 2006.
Albert Barrett Hicks III (Chemical Engineering) B.S., Auburn University 2004.
Christopher Peter Hiszpanski (Electrical Engineering) B.S., California Institute of Technology 2006.
Ting Hong (Applied Physics) B.S., Nanjing University 2002; M.S., Chinese Academy of Sciences 2005.
Chia-Lung Hsieh (Electrical Engineering) B.S., National Tsing-hua University 2002; M.S., National Taiwan University 2004.
Chen An Andrew Huang (Electrical Engineering) B.S., California Institute of Technology 2006.
Ruo-Gu Huang (Electrical Engineering) B.S., National Tsing-hua University 1999; M.S., National Chiao-Tung University 2001.
Heather Kristine Hunt (Chemical Engineering) B.S., Iowa State University 2004.
Richard Kalantar Ohanian (Electrical Engineering) B.S., California Institute of Technology 2005.
Mansi Manoj Kasliwal (Astrophysics) B.S., Cornell University 2005.
Gabriel Katz (Social Science) Licenciado, Universidad de la República 2005.
Suk Won Kim (Electrical Engineering) B.E., Seoul National University 2005.
Christopher Kovalchick (Aeronautics) B.S., The Johns Hopkins University 2006; B.M.,
Peabody Conservatory 2006.
Jeffrey Allen LeHew (Aeronautics) B.S., Milwaukee School of Engineering 2006.
Benjamin David Leitner (Mathematics) B.A. (Mathematics), B.S. (Chemistry), University of
California, San Diego 2003.
Chen Li (Materials Science) B.S., Peking University 2003.
Alexander Peter Lin (Bioengineering) B.S., California Institute of Technology 2003.
Chun-Hui Lin (Electrical Engineering) B.S. (Civil Engineering), B.S. (Mechanical
Engineering), National Taiwan University 1999; M.S., 2002.
Yuebin Liu (Astrophysics) B.S., Peking University 2005.
Francisco Lopez Jimenez (Aerospace Engineering) M.E., University of Seville 2006.
David Lopez Mateos (Physics) S.B. (Computer Science) S.B. (Physics), Massachusetts
Institute of Technology 2005.
Mary W. C. Louie (Chemical Engineering) B.S., University of California, Berkeley 2005.
Andrew Friedrich May (Chemical Engineering) B.S., The Pennsylvania State University
2004.
Heather Catherine McCaig (Chemical Engineering) B.S., Oregon State University 2004.
Margaret Anne McConnell (Social Science) B.A., Wesleyan University 2003.
Alexander George McKenzie (Computer Science) M.S., University College London
2005.
John Allen Meier (Mechanical Engineering) B.S., Stanford University 2006.
Andrew Richard Metcalf (Environmental Science and Engineering) B.S., M.S., The
Pennsylvania State University 2005.
Ashley Moore (Aerospace Engineering) B.S. (Aerospace Engineering Sciences), B.S. (Applied
Mathematics), University of Colorado, Boulder 2006.
Patrick Gary Mullen (Computer Science) B.S., California Institute of Technology 2002.
Mandheerej Singh Nandra (Electrical Engineering) B.A.Sc., University of Toronto 2005.
Li Ni (Applied Mechanics) B.S., Beijing Polytechnic University 1998; M.S., Beijing
University of Technology 2001.
Juan Pedro Ochoa Ricoux (Physics) Ingeniero, Instituto Tecnológico y de Estudios
Superiores de Monterrey 2003.
Oluwatosin Helen Otitoju (Control and Dynamical Systems) B.S., Howard University
Ruxandra Georgiana Paun (Electrical Engineering) B.S., California Institute of
Technology 2006.
Concetta Pilotto (Computer Science) Laurea, University of Roma “La Sapienza” 2003.
Havala Olson Taylor Pye (Chemical Engineering) B.S., University of Florida 2005.
Master of Science continued

Celia Reina Romo (Aerospace Engineering) M.E., University of Seville 2006; M.S., École Centrale Paris 2006.

Jason Tyler Rolfe (Computation and Neural Systems) S.B., Massachusetts Institute of Technology 2003.

Julian Neukom Romero (Social Science) B.A. (Economics), B.A. (Mathematics), Northwestern University 2005.

Farshid Roumi (Mechanical Engineering) B.S., Sharif University of Technology 2001; M.S., 2004.

Rizk Georges Saade (Electrical Engineering) B.E., American University of Beirut 2006.

James Fredric Sanchez (Chemistry) B.A., University of California, Los Angeles 1996; B.S., University of California, Irvine 2002.


Erik Wright Schomburg (Physics) B.Sc., The University of Michigan 2005.

Diana Sergeiievn Smirnova (Chemical Engineering) B.S., The Johns Hopkins University 2005.

Sonja Spasovic (Geophysics) B.S., University of Belgrade 2001; M.S., University of Houston 2003.


Panagiota Stratou (Control and Dynamical Systems) Diploma, National Technical University of Athens 2005.

James William Swan (Chemical Engineering) B.S., University of Arizona 2004.

James Allen Van Deventer (Chemical Engineering) B.S., Stanford University 2004.

Christopher Ian Walker (Electrical Engineering) B.S., California Institute of Technology 1998.

Hua Wang (Electrical Engineering) B.S., Tsinghua University 2003.

Jinti Wang (Chemistry) B.S., University of Science and Technology of China 2004.

Ying Wang (Geochemistry) B.S., University of Science and Technology of China 2004.

Ching-Chih Weng (Electrical Engineering) B.S., National Taiwan University 2004.


Jie Wu (Electrical Engineering) B.E., Nanyang Technological University 2005.

Zhizhang Xia (Electrical Engineering) B.S., California Institute of Technology 2006.


Xinning Zhang (Environmental Science and Engineering) B.S., Cornell University 2004.

Kevin Zhou (Aeronautics) B.S., University of Illinois at Urbana-Champaign 2006.

DIVISION OF BIOLOGY

Oscar Alvizo (Biochemistry and Molecular Biophysics) B.S., University of California, Santa Cruz 2001.

Meredith Howard Ashby (Biochemistry and Molecular Biophysics) B.S., Amherst College 1996.
Thesis: The Sea Urchin Regulome in Development.

Thesis: Bayesian Modeling of Sensory Cue Combinations.

John Andrew Bender (Biology) B.S., Montana State University 2001.
Thesis: Elements of Feed-forward and Feedback Control in Drosophila Body Saccades.

C. Titus Brown (Biology) B.A., Reed College 1997.
Thesis: Tackling the Regulatory Genome.


Scott A. Detmer (Biology) B.S., University of California, San Diego 1999.
Thesis: The Role of Mitofusin Proteins in Mitochondrial Fusion and Disease.

Jolene Sabrina Fernandes (Biology) B.Sc., Suffolk University 2000.

Nazli Ghaboosi (Genetics) B.A., University of California, Berkeley 1996.
Thesis: Genetic Inhibition of the Ubiquitin-Proteasome Pathway: Insights into Proteasomal Targeting.


Gregory Philip Henderson (Biology) B.S., University of California, Berkeley 2000.
Thesis: Ultrastructural Studies of Two Model Minimal Cells by Electron Cryotomography.

Christian John Hochstim (Biology) B.S., Yale University 1999.

When more than one field of study is listed, the first is the major, and the second and others are minors.

Thesis: Neural Circuit Dynamics and Ensemble Coding in the Locust and Fruit Fly Olfactory System.

Jongmin Kim (Biology) B.S., Pohang University 2000.
Thesis: In Vitro Synthetic Transcriptional Networks.

Jonathan Kyle Lassila (Biochemistry and Molecular Biophysics) B.A., Reed College 1997; M.S., Yale University 2000.
Thesis: Methods for Computational Enzyme Design and Application to the Chorismate-Prephenate Rearrangement.

Pei Yun Lee (Biology) B.S., University of California, Los Angeles 1999.

Carole Chih-Chen Lu (Biology) S.B., Massachusetts Institute of Technology 1999.
Thesis: Cranial Neural Crest Cell Migration in the Avian Embryo and the Roles of Eph-A4 and Ephrin-A5.

Davin Malasarn (Biology) B.S., University of California, Davis 2000.
Thesis: Molecular and Environmental Studies of Bacterial Arsenate Respiration.

Thesis: The Effects of Behavioral Stress and Endothelin Receptor Antagonists on Cancer.

Farshad Moradi (Computation and Neural Systems and Computer Science) M.D., Tehran University of Medical Sciences 2000.


Gavin Erick Murphy (Biochemistry and Molecular Biophysics) B.S., University of Dallas 1999.
Thesis: Cryoelectron Tomography of Bacteria and their Macromolecular Machines.

Thesis: Postdiction and the Effects of Spatial, Temporal, and Feature Compatibility on Sensory Integration.

Roger Revilla-i-Domingo  (*Biochemistry and Molecular Biophysics*)  M.Sc., University of Bristol 1998.

Thesis: Studies of the Spatial Organization of Metabolism in *Shewanella oneidensis* and *Pseudomonas aeruginosa* Biofilms.

**DIVISION OF CHEMISTRY AND CHEMICAL ENGINEERING**

Theodor Agapie  (*Chemistry*)  S.B., Massachusetts Institute of Technology 2001.
Thesis: Synthetic, Reactivity, and Mechanistic Studies Relevant to Olefin Oligomerization and Polymerization.

Gitradha Arjara  (*Chemistry*)  S.B., Massachusetts Institute of Technology 2002.
Thesis: Refolding a Beta-Barrier Membrane Protein.

Thesis: Fundamental Mechanisms and Biological Applications of DNA-mediated Charge Transport.


William Clifford Balcerski  (*Chemistry*)  B.S., M.S., Yale University 1999.

Derek William Bartlett  (*Chemical Engineering and Biology*)  B.S., Stanford University 2003; M.S., California Institute of Technology 2005.
Thesis: An Engineering Approach to Cancer Therapy Using Systemically Delivered siRNA.


Justin S. Bois  (*Chemical Engineering*)  B.Sc., University of Illinois at Urbana-Champaign 1999.
Yuri Leonid Bunimovich (Chemistry) B.S., Cornell University 2000.  


Jang Wook Choi (Chemical Engineering) B.S., Seoul National University 2002.  

Lucia Fernández-Ballester (Chemical Engineering) B.S., Universidad de Alicante 2000;  
M.S., California Institute of Technology 2002.  

Timothy William Funk (Chemistry) B.S., Gettysburg College 2000.  

Niki Chiyomi Galownia (Chemical Engineering) B.S., Case Western Reserve University 2001; M.S., California Institute of Technology 2003.  

Nicole C. Goodwin (Chemistry) B.S., University of Delaware 2001.  

Nicholas A. Graham (Chemical Engineering) B.S., Washington University 2001; M.S., California Institute of Technology 2004.  

Jonathan Earl Green (Chemistry) B.S., University of California, Irvine 2002; M.S., California Institute of Technology 2005.  


Andrew Hejl (Chemistry) B.S., B.A., University of Illinois at Urbana-Champaign 2000.  
Thesis: Controlling Olefin Metathesis through Catalyst and Monomer Design.

Daven Ker Henze (Chemical Engineering) B.S. (Chemistry), B.S. (Chemical Engineering), University of Washington 2001; M.S., California Institute of Technology 2004.  
Thesis: Forward and Inverse Analysis of Chemical Transport Models.

Thesis: Computational Studies of Orphan G Protein-Coupled Receptors.
Soon Hyo-ek Hong (Chemistry) B.S., M.S., Seoul National University 1999.

Aditya Satish Khair (Chemical Engineering) M.E., Imperial College London 2001;
Thesis: Particle Motion in Colloidal Dispersions: Applications to Microrheology and Nonequilibrium Depletion Interactions.

Nelly Khidekel (Biochemistry and Molecular Biophysics) B.A., Northwestern University 2000.

Inchan Kwon (Chemical Engineering and Chemistry) B.S., Seoul National University; M.S., 1996; M.S., California Institute of Technology 2003.


Lori Wai Hang Lee (Chemistry) B.S., University of California, Berkeley 2000.

Jian Liu (Chemistry) B.S., Fudan University 1997; M.S. 2000.

Tao Liu (Chemistry) B.S., Peking University 2000.
Thesis: Electrochemical Studies of Electron Transfer in DNA Films with Covalently Tethered Intercalators.


Andrew Keeler Mollner (Chemistry) B.S., University of California, Davis 2001.

Nga Lee Ng (Chemical Engineering) B.E., Hong Kong University of Science and Technology 2002; M.S., California Institute of Technology 2004.

Yen Hoang Le Nguyen (Chemistry) B.S., Sweet Briar College 2001.
Thesis: Wiring Inducible Nitric Oxide Synthase.

Thesis: Computational Studies of the Structure and Function of Two Lipid-Activated G Protein-Coupled Receptors.
Neal Robert Scruggs (Chemical Engineering) B.S., University of Kentucky 2001; M.S., California Institute of Technology 2003.
Thesis: Coupling Polymer Thermodynamics and Viscoelasticity to Liquid Crystalline Order: Self-Assembly and Relaxation Dynamics of Block Copolymers in a Nematic Solvent.

Soojin Son (Chemical Engineering and Biology) S.B., Massachusetts Institute of Technology 2000; M.S., California Institute of Technology 2002.
Thesis: Biosynthetic Approaches to Protein Engineering Using Fluorinated Amino Acids.

Julius Tsu-li Su (Chemistry) B.S. (Biology), B.S. (Physics), California Institute of Technology 1998.

Thesis: Synthesis and Biological Activity of Chondroitin Sulfate Biopolymers.

Christine Terumi Ueda (Chemistry) B.A., Wesleyan University 2000.

Rafael Verduzco (Chemical Engineering) B.S., Rice University 2001; M.S., California Institute of Technology 2003.

Ryan K. Zeidan (Chemistry) S.B. (Chemical Engineering), S.B. (Chemistry), Massachusetts Institute of Technology 2002.
Thesis: Design of New Multifunctional Materials.

Ke Chun Zhang (Chemistry) B.S., University of Science and Technology of China 2001.

DIVISION OF ENGINEERING AND APPLIED SCIENCE

Ehsan Afshari (Electrical Engineering) B.Sc., Sharif University of Technology 2001; M.S., California Institute of Technology 2003.


Thesis: Chemical and Biological Sensing with Ultra-high-Q Microresonators.
John King-Tai Au \textit{(Applied Physics)} B.Sc., Queen’s University 1999; M.S., California Institute of Technology 2000.  
Thesis: An \textit{Ab Initio} Approach to the Inverse Problem-Based Design of Photonic Bandgap Devices.

Peter Babilo \textit{(Materials Science)} B.S., University of California, Irvine 2001; M.S. California Institute of Technology 2003.  

Frederick Kiguli Balagadde \textit{(Applied Physics)} B.A., Manchester College 2001; M.S., California Institute of Technology 2004.  
Thesis: Microfluidic Technologies for Continuous Culture and Genetic Circuit Characterization.


Thesis: Fiber Coupled Nanophotonic Devices for Nonlinear Optics and Cavity QED.


Thesis: Hamilton-Pontryagin Integrators on Lie Groups.

Samuel Case Bradford V \textit{(Civil Engineering and Geophysics)} B.S., University of California, Berkeley 1999; M.S., California Institute of Technology 2000.  


Michal Amaris Brown \textit{(Materials Science)} B.S., Florida A&M University 2001; M.S., California Institute of Technology 2003.  
Thesis: Measuring Stress in Thin-Film Substrate Systems Featuring Spatial Nonuniformities of Film Thickness and/or Misfit Strain.

Kate Marie Campbell (Environmental Science and Engineering) B.S., Georgetown University 2001; M.S., California Institute of Technology 2003.

Lijun Chen (Control and Dynamical Systems) M.S., Institute of Theoretical Physics 1998.


Timothy Hahn Deut Chung (Mechanical Engineering) B.S., Cornell University 2001; M.S., California Institute Technology 2002.

Lisa Cowan (Materials Science and Chemistry) B.S., California Institute of Technology 2001; M.S., California Institute of Technology 2005.

Samantha Hayes Daly (Mechanical Engineering) B.E., Dartmouth College 2001; M.S., California Institute of Technology 2002.
Thesis: Deformation and Fracture of Thin Sheets of Nitinol.


Joanna Lynn Dodd (Materials Science) B.S., California Institute of Technology 1999; M.S., University of California, Los Angeles 2002; M.S., California Institute of Technology 2004.
Thesis: Phase Composition and Dynamical Studies of Lithium Iron Phosphate.


Thesis: New Approaches to the Analysis and Design of Reed-Solomon Related Codes.


Amir Farajidana (Electrical Engineering) B.Sc., Sharif University of Technology 2001; M.S., California Institute of Technology 2002.
Doctor of Philosophy continued

Philip Xiao-Li Feng (Electrical Engineering) B.S., Tsinghua University 1996; M.S., 2001; M.S., California Institute of Technology 2002.

Thesis: Motion Contrast Using Optical Coherence Tomography.


Vijay Gupta (Electrical Engineering) B.Tech., Indian Institute of Technology, Delhi 2001; M.S., California Institute of Technology 2002.


Thesis: Model-Based Decision Making in the Human Brain.

Yong Hao (Mechanical Engineering) B.E., University of Science and Technology of China 2001; M.S., California Institute of Technology 2002.

John Shelby Harmon III (Materials Science) B.S., The University of Texas at Austin 2003.

Alex David Holub (Computation and Neural Systems) B.A., Cornell University 2000.

Xun Jiang (Environmental Science and Engineering) B.S., Nanjing Institute of Meteorology 1998; M.S., Peking University 2001; M.S., California Institute of Technology 2003.
II: Seasonal Cycle of N₂O.
Arash Kheradvar  (Bioengineering)  M.D., Tehran University 2000; M.S., Azad University 2002.
Thesis: The Role of Vortex Ring Formation and Pressure Drop on Dynamics of the Left Ventricle during Diastole.
Theresa Hiromi Kidd  (Aeronautics and Applied Physics)  B.S., University of Illinois at Urbana-Champaign; M.S., California Institute of Technology 2003.
Thesis: Mechanical Characterization of Damage and Failure in Polymeric Foams and Glass/Epoxy Composites.
Thesis: Effects of Damping and Reynolds Number on Vortex-Induced Vibrations.
Robert D. Kolasinski  (Mechanical Engineering)  B.S., Rutgers University 2000; M.S., California Institute of Technology 2001.
Abbas Komijani  (Electrical Engineering)  B.S., Sharif University of Technology 1995; M.S., 1997.
Thesis: Coarse-Graining of Atomistic Description at Finite Temperature.
Wei Lai  (Materials Science)  B.S., University of Science and Technology of China 1998; M.S., 2001; M.S., California Institute of Technology 2004.
Lun Li  (Electrical Engineering)  B.S., Tsinghua University 1999; M.S., University of California, Berkeley 2001; M.S., California Institute of Technology 2002.
Mo Li  (Applied Physics)  B.S., University of Science and Technology of China 2001; M.S., University of California, San Diego 2003.
Doctor of Philosophy continued

Xin Liu (Control and Dynamical Systems)  B.E., Beijing University of Aeronautics and Astronautics 1997; M.S., 2000.
Thesis: Robustness, Complexity, Validation and Risk.

Boonrat Lohwongwatana (Materials Science)  B.S., Northwestern University 2000; M.S., California Institute of Technology 2002.


Thesis: Microfluidic Devices for Accessible Medical Diagnostics.

Alfredo Martínez Estrada (Control and Dynamical Systems)  B.S. (Mathematics), B.S. (Physics), University of Houston 1996.

Thesis: Piezoelectric and Magnetoelastic Strain in the Transduction and Frequency Control of Nanomechanical Resonators.

Mortada Mehynar (Electrical Engineering)  B.S., National Taiwan University 2001; M.S., California Institute of Technology 2003.

Shu Miao (Materials Science)  B.S., Tsinghua University 1999; M.S., 2002; M.S., California Institute of Technology 2004.


Seyed-Maziar Motahari (Mechanical Engineering) B.S., University of Tehran 1996; M.S., 1997; M.S., California Institute of Technology 2005.

Christopher Andre Mouton (Aeronautics and Social Science) B.S., The University of Texas at Austin 2001; M.S., California Institute of Technology 2002.
Thesis: Transition between Regular Reflection and Mach Reflection in the Dual-Solution Domain.

Matthew Mokihana Muto (Civil Engineering) B.S., Harvey Mudd College 2000; M.S., California Institute of Technology 2001.

Thesis: Structural Plasticity in Neuronal Networks.

Abbas Nasiraei Moghaddam (Bioengineering) B.S., University of Tehran 1995; M.S., 1998.

Thesis: Millimeter-Wave Phased Arrays in Silicon.

AnnMarie Polsenberg Thomas (Mechanical Engineering) S.B., Massachusetts Institute of Technology 2001; M.S., California Institute of Technology 2002.

Joyce Kai See Poon (Electrical Engineering) B.Sc., University of Toronto 2002; M.S., California Institute of Technology 2003.

Thesis: Laser Induced Fluorescence Measurements of Spheromak Plasmas.

Chaitanya Kumar Rao (Electrical Engineering) B.S., University of Melbourne 2001; M.S., California Institute of Technology 2002.

Michael Bernard Reiser (Computation and Neural Systems) B.S., University of Florida 2000; M.S., University of California, Berkeley 2002.

Thesis: Low-Temperature Hot-Wire Chemical Vapor Deposition of Epitaxial Films for Large-grained Polycrystalline Photovoltaic Devices.
Doctor of Philosophy continued

  Thesis: Correlating Microscopic Ferroelectric Properties and Macroscopic Thin Film Device Performance.
Rebecca Beth Schulman (Computation and Neural Systems) S.B., Massachusetts Institute of Technology 1999.
Nicole Smith Downey (Environmental Science and Engineering) B.S., Beloit College 2001; M.S., California Institute of Technology 2004.
Kazuo Sone (Aeronautics and Applied and Computational Mathematics and Computer Science) B.E., Kyoto University 1999; M.S., Georgia Institute of Technology 2000.
Angela Colleen Tooker (Electrical Engineering) S.B. (Computer Science), S.B. (Electrical Engineering), Massachusetts Institute of Technology 2000; M.Eng., 2002.
Christopher Thomas Veazey (Materials Science) B.S., Pacific University 2001; M.S., California Institute of Technology 2003.
  Thesis: Silicon Nanocrystals for Silicon Photonics.
Yajuan Wang (Environmental Science and Engineering) B.S., Tsinghua University 1999; M.S., California Institute of Technology 2003.
  Thesis: Studies on Environmental Relevance of Quorum Sensing Signal Decay.


DIVISION OF GEOLOGICAL AND PLANETARY SCIENCES


DIVISION OF HUMANITIES AND SOCIAL SCIENCES


Deborah Elizabeth Sinclair (Social Science) B.S., University of Redlands 2002; M.S., California Institute of Technology 2004. Thesis: Political Networks.

DIVISION OF PHYSICS, MATHEMATICS AND ASTRONOMY

Doctor of Philosophy continued

George Dana Becker (Astrophysics) B.A., University of Virginia 1999.
Thesis: Feedback Control of Brownian Motion for Single-Particle Fluorescence Spectroscopy.
Mihai Bondarescu (Physics) Diploma de Licenta, West University of Timisoara 2001;
Diplom, Freie Universität Berlin 2001; M.S., California Institute of Technology 2003.
Thesis: Topics in General Relativity.
Thesis: Non-Abelian Anyons and Interferometry.
Thesis: Radiative Leptonic B Decays.
Songye Chen (Physics) B.S., Peking University 1998; M.S., University of Houston 2000.
Megan Elizabeth Eckart (Physics) B.A., University of California, Berkeley 2000; M.S.,
California Institute of Technology 2002.
Rebecca Joan Erwin (Physics) B.A., Amherst College 2002.
Hua Fang (Physics and Electrical Engineering) B.S., Peking University 2000.
Geoffrey Mark Lovelace (Physics) B.S., University of Oklahoma 2002.
Dónal O’Connell (Physics) B.A., Trinity College, Dublin 2000; M.Sc., 2001; M.S.,
California Institute of Technology 2003.
Thesis: Unusual Signs in Quantum Field Theory.
Doctor of Philosophy continued

Ryan Christopher Ogliore (Physics) B.A., Claremont McKenna College 2000; M.S., California Institute of Technology 2002.

Robert Philip Owen (Physics) B.S., University of Utah 2001.

Roberto Carlos Pelayo (Mathematics) B.A., Occidental College 2002.

Thesis: Extracting the Cosmic History from Diffuse Backgrounds.

Thesis: Association Schemes, Codes, and Difference Sets.

Michael Phillip Salem (Physics) B.S., Case Western Reserve University 2002; M.S., California Institute of Technology 2004.
Thesis: Topics in Theoretical Particle Physics and Cosmology.

Thesis: Rotating Rayleigh-Bénard Convection.


Benjamin Francis Toner (Physics) B.S., The University of Melbourne 2001; M.S., California Institute of Technology 2004.

Ramon van Handel (Physics) M.Sc., Vrije University 2002.

Thesis: Neutrino Mass Implications for Physics Beyond the Standard Model.

Min Yang (Physics and Social Science) B.S., Peking University 1998; M.S., California Institute of Technology 2005.
Thesis: Submillimeter Surveys of Galaxy Samples.
Prizes and awards are listed only for those students receiving degrees in 2007 and include prizes and awards received by them in previous years.

MILTON AND FRANCIS CLAUSER DOCTORAL PRIZE
Awarded to the Ph.D. candidate whose research is judged to exhibit the greatest degree of originality as evidenced by its potential for opening up new avenues of human thought and endeavor as well as by the ingenuity with which it has been carried out.

*Name of recipient to be announced at commencement.*

FREDERIC W. HINRICHS, JR., MEMORIAL AWARD
Awarded to the seniors who, in the opinion of the undergraduate deans, have made the greatest undergraduate contribution to the welfare of the student body and whose qualities of leadership, character, and responsibility have been outstanding.

2007  *Jean Elizabeth Sun*

MABEL BECKMAN PRIZE
Awarded to an undergraduate woman upon completion of her junior or senior year in recognition of demonstrated academic and personal excellence, contributions to the Institute community, and outstanding qualities of character and leadership.

2007  *Raquel Dagmar Vélez*

GEORGE W. HOUSNER AWARD
Formerly the Sigma Xi Award, awarded to a senior selected for an outstanding piece of original scientific research.

2007  *Matthew David Fisher, Huan Yang*

*The four prizes above are announced at the commencement ceremony.*
ROSALIND W. ALCOTT MERIT SCHOLARSHIP, UPPER CLASS MERIT AWARD, CARNATION SCHOLARSHIP, AND JOHN STAUFFER MERIT SCHOLARSHIP

Each year Caltech awards these prizes for academic excellence to undergraduates. They are based solely on merit (selection is made on the basis of grades, faculty recommendations, and demonstrated research productivity) with no consideration given to need or any other nonacademic criteria.

2005
Po-Ru Loh
Yingkai Ouyang

2006
Jimmy Zhe Jia
Kevin Cossel
Sukhada Sharad Fadnavis
Daniel Fu
Yuan Gong
Kenneth Heafield

Anthony David Kelman
Michael Kolodrubetz
Po-Ru Loh
Wen Mao
Lydia Won Ying Ng
Yingkai Ouyang

Harrison Samuel Stein
Elisabeth Streit
Zhan Jane Wang
Huan Yang
Yifan Zhou

2007
Yijia Chen
Evelyn Joyce Cheung
Kevin Cossel
Matthew David Fisher
Daniel Fu
Benjamin Golub
Yuan Gong
Kenneth L. Ho
Nicholas Richard Hutzler

Jimmy Zhe Jia
Anthony David Kelman
Wei Li
Kelly Ying Lin
Victor Liu
Lydia Won Ying Ng
Emma Rose Schmidgall

Harrison Samuel Stein
Elisabeth Streit
Rebecca Lydia Streit
Truong-Dzuy Edward
Truong-Cao
Zhan Won Ying Wang
Huan Yang
Rumen Ivanov Zarev
Yifan Zhou
AXLINE MERIT SCHOLARS
Awarded to selected freshmen whose record of personal and academic accomplishment is judged outstanding among incoming freshmen. These scholarships are renewable, contingent on academic performance.

2004  Benjamin Golub  Po-Ru Loh  John Paul Sadowski
       Yuan Gong  Lydia Won Ying Ng  Emma Rose Schmidgall
       Michael Kolodrubetz  Emily Russell  Vera Louise te Velde

CHARLES D. BABCOCK AWARD
Awarded, by vote of the aeronautics faculty, to a graduate student whose achievements in teaching or other assistance to students have made a significant contribution to the aeronautics department.

2001  Michael Thomas Rubel
2004  Laurence Loumes
2005  Michal Amaris Brown, Yashashree Kulkarni
2007  Samantha Hayes Daly

ROBERT P. BALLES CALTECH MATHEMATICS SCHOLARS AWARD
Awarded to the mathematics major entering his or her senior year who has demonstrated the most outstanding performance in mathematics courses completed in the student’s first three years at Caltech.

2006  Po-Ru Loh

WILLIAM F. BALLHAUS PRIZE
Awarded to aeronautics students for outstanding doctoral dissertations.

2007  Theresa Hiromi Kidd, Christopher Andre Mouton
BHANSALI PRIZE IN COMPUTER SCIENCE
Awarded to an undergraduate student for outstanding research in computer science in the current academic year.
2006 Matthew David Fisher
2007 Siddharth Patel

RICHARD G. BREWER PRIZE IN PHYSICS
Awarded to the freshman with the most interesting solutions to the Physics 11 “hurdles,” in recognition of demonstrated intellectual promise and creativity at the very beginning of his or her Caltech education.
2004 Matthew David Fisher

ROLF D. BUEHLER MEMORIAL AWARD IN AERONAUTICS
Awarded to an aeronautics student for outstanding academic achievement in the Master’s program.
2007 Daegyoun Kim, Celia Reina Romo

FRITZ B. BURNS PRIZE IN GEOLOGY
Awarded to an undergraduate who has demonstrated both academic excellence and great promise of future contributions in the fields represented by the division of geological and planetary sciences.
2006 Rebecca Lydia Streit

THE W. P. CAREY & CO., INC., PRIZE IN APPLIED MATHEMATICS
Awarded to a student receiving a Doctor of Philosophy degree for an outstanding doctoral dissertation in applied mathematics or pure mathematics.
2007 Lei Zhang

BONNIE CASHIN PRIZE FOR IMAGINATIVE THINKING
Awarded each year to the entering freshman who has written the most imaginative essays in the application for freshman admission.
2000 Chandra Moncoeur Barnett
RICHARD BRUCE CHAPMAN MEMORIAL AWARD
Awarded to a graduate student in hydrodynamics who has distinguished himself or herself in research in the division of engineering and applied science.

2007 Guillaume Alain Brès

DONALD S. CLARK MEMORIAL AWARD
Awarded to two juniors in recognition of service to the campus community and academic excellence. Preference is given to students in the Division of Engineering and Applied Science and to those in Chemical Engineering.

2006 Truong-Dzuy Edward Truong-Cao, Shai Barak, Rahul Deb

THE DONALD COLES PRIZE IN AERONAUTICS
Awarded to the graduating Ph.D. student in aeronautics whose thesis displays the best design of an experiment or the best design for a piece of experimental equipment.

2007 Emilio Castaño Graff

DEANS’ CUP AND CAMPUS LIFE AND MASTER’S AWARDS
Two awards, selected by the deans, the director of campus life, and the master of student houses, presented to undergraduates whose concern for their fellow students has been demonstrated by persistent efforts to improve the quality of undergraduate life and by effective communication with members of the faculty and administration.

2007 Scott David Jordan, Yuliya Kuznetsova, Campus Life
           Arturo Alejandro Pizano, Dean’s Cup

DEMETRIADES-TSAFKA PRIZE IN BIOENGINEERING OR RELATED FIELDS
Awarded annually to a Ph.D. candidate for the best thesis, publication, or discovery in bioengineering or related fields during the past year. This prize is made possible by a gift from Anna Kokalis Demetriades and Sterge T. Demetriades (Eng. ’58).

2007 Jesse D. Bloom
DEMETRIADES-TSAFKA PRIZE IN ENTREPRENEURSHIP OR RELATED FIELDS
Awarded annually for the best business plan or proposal, start-up, thesis, publication, discovery, or related efforts by student(s) in entrepreneurship or related fields. This prize is made possible by a gift from Anna Kokalis Demetriades and Sterge T. Demetriades (Eng. ’58).

2007    Ghyrn William Loveness

DEMETRIADES-TSAFKA PRIZE IN NANOTECHNOLOGY OR RELATED FIELDS
Awarded annually to a Ph.D. candidate for the best thesis, publication, or discovery in nanotechnology or related fields at the Institute in the preceding 12 months. This prize is made possible by a gift from Anna Kokalis Demetriades and Sterge T. Demetriades (Eng. ’58).

2007    Jang Wook Choi, Robert Joseph Walters

CONSTANTIN G. ECONOMOUI MEMORIAL PRIZE
Awarded to a chemical engineering graduate student distinguished by outstanding research accomplishments and exemplary attitude while fulfilling candidacy requirements for the Ph.D. degree.

2003    Inchan Kwon
2004    Aditya Satish Khair
2005    Derek William Bartlett

EVERHART DISTINGUISHED GRADUATE STUDENT LECTURER AWARD
Awarded to a graduate student who has demonstrated exemplary presentation ability and graduate research.

2005    Nelly Khidekel
2007    Samantha Hayes Daly, Tracy K. Teal
LAWRENCE L. AND AUDREY W. FERGUSON PRIZE
Awarded to the graduating Ph.D. candidate in biology who has produced the outstanding doctoral thesis for the past year.
2007  Gavin Erick Murphy

RICHARD P. FEYNMAN PRIZE IN THEORETICAL PHYSICS
Awarded to a senior on the basis of excellence in theoretical physics.
2007  Emily Russell

HAREN LEE FISHER MEMORIAL AWARD IN JUNIOR PHYSICS
Awarded to a junior physics major who demonstrates the greatest promise of future contributions in physics.
2006  Emily Russell

HENRY FORD II SCHOLAR AWARD
Awarded either to the engineering student with the best academic record at the end of the third year of undergraduate study, or to the engineering student with the best first-year record in the graduate program.
2006  Anthony David Kelman

JACK E. FROEHLICH MEMORIAL AWARD
Awarded to a junior in the upper five percent of his or her class who shows outstanding promise for a creative professional career.
2006  Po-Ru Loh, Emily Russell

GRADUATE DEANS’ AWARD FOR OUTSTANDING COMMUNITY SERVICE
Awarded to a Ph.D. candidate who, throughout his or her graduate years at the Institute, has made great contributions to graduate life and whose qualities of leadership and responsibility have been outstanding.
2007  Andrea Martin Armani, Scott Brian Miserendino
LUCY GUERNSEY SERVICE AWARD
Awarded to one or two students who have provided exceptional service to the Caltech Y and/or the community, are involved with service projects, have demonstrated leadership in community and volunteer service efforts, and who exemplify a spirit of service.

2006    Radhika Gowakar

ARIE J. HAAGEN-SMIT MEMORIAL AWARD
Awarded to a sophomore or junior in biology or chemistry who has shown academic promise and who has made recognized contributions to Caltech.

2006    Evelyn Joyce Cheung

ALEXANDER P. AND ADELAIDE F. HIXON PRIZE FOR WRITING
Awarded annually in recognition of the best writing in freshman humanities courses.

2004    Po-Ru Loh

SCOTT RUSSELL JOHNSON PRIZE FOR EXCELLENCE IN GRADUATE STUDY IN MATHEMATICS
Awarded to continuing graduate students for excellence in one or more of the following: extraordinary progress in research, excellence in teaching, or excellent performance as a first-year graduate student.

2006    Robert Carlos Pelayo

SCOTT RUSSELL JOHNSON UNDERGRADUATE MATHEMATICS PRIZE
Awarded for the best graduating mathematics major. Special consideration is given to independent research done as a senior thesis or SURF project.

2007    Po-Ru Loh
D. S. KOTHARI PRIZE IN PHYSICS
Awarded to a graduating senior in physics who has produced an outstanding research project during the year.
2007  Kevin Cossel

MARGIE LAURITSEN LEIGHTON PRIZE
Awarded to one or two undergraduate women who are majoring in physics or astrophysics, and who have demonstrated academic excellence.
2005  Emily Russell

DOROTHY B. AND HARRISON C. LINGLE SCHOLARSHIP
Awarded to an incoming freshman in recognition of interest in a career in science or engineering, outstanding academic record, demonstrated fair-mindedness, and unquestioned integrity. This prize is renewable, contingent on academic performance.
2004  Emily Russell

THE HERBERT NEWBY McCoy AWARD
Awarded to chemistry doctoral students for outstanding contributions to the science of chemistry.
2007  Theodor Agapie, Douglas C. Behenna, Julius Tsu-li Su

MARY A. EARL McKINNEY PRIZE IN LITERATURE
Awarded to undergraduate students for excellence in writing in three categories: poetry, prose fiction, and nonfiction essays.
2004  Rebecca Lydia Streit
2006  Daniel Michael McLaury, James Adler
2007  Jean Elizabeth Sun
ROBERT L. NOLAND LEADERSHIP SCHOLARSHIP
Awarded to undergraduate students who exhibit qualities of outstanding leadership, which are most often expressed as personal actions that have helped other people and that have inspired others to fulfill their capabilities.
2007    Neha Monica Das

RODMAN W. PAUL HISTORY PRIZE
Awarded to a junior or senior who has displayed an unusual interest in and talent for history.
2007    Emma Rose Schmidgall

PRESIDENT’S SCHOLARS
Awarded to selected freshmen to promote the breadth and diversity of the Caltech undergraduate student body. The scholarships are renewable, contingent on academic performance.
2003    David Joseph Simenc
2004    Isaac Garcia-Munoz, Jaime Bango Garnica, Arturo Alejandro Pizano, Cameron PT Taketa, Raquel Dagmar Vélez

HOWARD REYNOLDS MEMORIAL PRIZE IN GEOLOGY
Awarded to a sophomore or junior who demonstrates the potential to excel in the field of geology and who actively contributes to the quality of student life at Caltech.
2005    Elisabeth Streit

HERBERT J. RYSER MEMORIAL SCHOLARSHIPS
Awarded to undergraduate students for academic excellence, preferably in mathematics.
2005    Po-Ru Loh, Benjamin Golub
2006    Grigori Avramidi, Nicholas Richard Hutzler, Po-Ru Loh
RICHARD P. SCHUSTER MEMORIAL PRIZE
Awarded to one or more juniors or seniors in chemistry or chemical engineering on the basis of financial need and academic promise.

2007  John Paul Sadowski, Zhan Jane Wang

ELEANOR SEARLE PRIZE IN LAW, POLITICS, AND INSTITUTIONS
Awarded annually to an undergraduate or graduate student whose work in history or the social sciences exemplifies Eleanor Searle’s interests in the use of power, government, and law.

2006  Emma Rose Schmidgall
2007  Sarah Anne Hill

ERNEST E. SECHLER MEMORIAL AWARD IN AERONAUTICS
Awarded to an aeronautics student who has made the most significant contribution to the teaching and research efforts of GALCIT (Graduate Aeronautical Laboratories of the California Institute of Technology). Preference is given to students working in structural mechanics.

2003  Michael Thomas Rubel
2004  Theresa Hiromi Kidd

DON SHEPARD AWARD
Awarded to students who would find it difficult, without additional financial help, to engage in extracurricular and cultural activities. The recipients are selected on the basis of their capacity to take advantage of and to profit from these activities rather than on the basis of their scholastic standing.

2005  Catherine S. Chou, Benjamin John Sexson
2006  Sukhada Sharad Fadnavis, Sixin Samantha Lu
2007  Royal Anne Reinecke
JOHN STAGER STEMPLE MEMORIAL PRIZE IN PHYSICS
Awarded to a graduate student in physics for outstanding progress in research as demonstrated by an excellent performance on the oral Ph.D. candidacy examination.

2003  Benjamin Francis Toner
2006  Juan Pedro Ochoa Ricoux

PAUL STUDENSKI MEMORIAL FUND PRIZE
A travel grant awarded to a Caltech undergraduate who would benefit from a period away from the academic community in order to obtain a better understanding of self and his or her plans for the future.

2007  Elena Hartoonian

FRANK TERUGGI MEMORIAL AWARD
Awarded to an undergraduate student who honors the spirit of Frank Teruggi’s life through participation “in the areas of Latin American studies, radical politics, creative radio programming, and other activities aimed at improving the living conditions of the less fortunate.”

2007  Jeffrey Steven Kranski

MORGAN WARD PRIZE
Awarded for the best problems and solutions in mathematics submitted by a freshman or sophomore.

2004  Po-Ru Loh
2005  Po-Ru Loh, Benjamin Golub
CHARLES WILTS PRIZE
Awarded to a graduate student for outstanding independent research in electrical engineering leading to a Ph.D.

2007 Ao (Kevin) Tang, Ph.D. ’06

FREDRICK J. ZEIGLER MEMORIAL AWARD
Awarded to an outstanding sophomore or junior in pure or applied mathematics, for excellence in scholarship as demonstrated in class activities or in the preparation of an original paper or essay in any subject area.

2005 Po-Ru Loh
**DELEGATES**

**Learned Societies and Academic Institutions**

<table>
<thead>
<tr>
<th>Year</th>
<th>Institution</th>
<th>Delegate</th>
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</thead>
<tbody>
<tr>
<td>1213</td>
<td>University of Oxford</td>
<td>John H. Richards, Minnie McMillan</td>
</tr>
<tr>
<td>1284</td>
<td>University of Cambridge</td>
<td>Gifford Combs</td>
</tr>
<tr>
<td>1636</td>
<td>Harvard University</td>
<td>James F. Rothenberg</td>
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<tr>
<td>1701</td>
<td>Yale University</td>
<td>Christopher Hill</td>
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<tr>
<td>1824</td>
<td>The University of Pennsylvania</td>
<td>Gordon S. Bodek</td>
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<td>1877</td>
<td>University of Pittsburgh</td>
<td>Marguerite Renner</td>
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<tr>
<td>1793</td>
<td>The University of North Carolina at Chapel Hill</td>
<td>Suzanne Lowe Weerts</td>
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<td>1794</td>
<td>École Polytechnique</td>
<td>Patrick Le Tallec</td>
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<td>1820</td>
<td>Indiana University</td>
<td>Alex L. Sessions</td>
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<td>1829</td>
<td>Technical University of Denmark</td>
<td>Lars Pallesen</td>
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<tr>
<td>1831</td>
<td>New York University</td>
<td>Herbert B. Keller</td>
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<td>1838</td>
<td>Duke University</td>
<td>Richard H. Patterson, Jr.</td>
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<td>1846</td>
<td>Grinnell College</td>
<td>Michael A. Giardello</td>
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<td>University of Florida</td>
<td>James P. Spoto, Jr.</td>
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<td>1858</td>
<td>Iowa State University</td>
<td>Richard F. Ross</td>
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<td>1861</td>
<td>Massachusetts Institute of Technology</td>
<td>Kent Kresa</td>
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<td>1869</td>
<td>Purdue University</td>
<td>Sangtae Kim</td>
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<td>1876</td>
<td>The Johns Hopkins University</td>
<td>Christopher Kovalchick</td>
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<td>1880</td>
<td>University of Southern California</td>
<td>Yannis Yortsos</td>
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<tr>
<td>1883</td>
<td>The University of Texas at Austin</td>
<td>Bobby R. Inman</td>
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<tr>
<td>Year</td>
<td>Institution</td>
<td>Graduate</td>
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<tr>
<td>1885</td>
<td>Georgia Institute of Technology</td>
<td>G. Wayne Clough</td>
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<td>1887</td>
<td>Occidental College</td>
<td>Robert Cody,</td>
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<td>Susan Westerberg Prager</td>
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<td>1887</td>
<td>Pomona College</td>
<td>Gary Kates</td>
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<td>1887</td>
<td>Whittier College</td>
<td>Barbara Groce</td>
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<td>1892</td>
<td>The University of Chicago</td>
<td>Edward C. Stone, Jr.</td>
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<td>1900</td>
<td>Carnegie Mellon University</td>
<td>Tuviah E. Schlesinger</td>
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<td>1908</td>
<td>Reed College</td>
<td>Peter Norton</td>
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<tr>
<td>1911</td>
<td>Tsinghua University</td>
<td>Gu Binglin, Zhang Shuangnan, Zhang Yi</td>
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<tr>
<td>1919</td>
<td>University of California, Los Angeles</td>
<td>Roberto Peccei</td>
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<tr>
<td>1926</td>
<td>Scripps College</td>
<td>Nancy Y. Bekavac</td>
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<tr>
<td>1930</td>
<td>Art Center College of Design</td>
<td>Richard Koshalek</td>
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<tr>
<td>1931</td>
<td>Osaka University</td>
<td>Chikaosa Tanimoto</td>
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<tr>
<td>1944</td>
<td>University of California, Santa Barbara</td>
<td>Henry T. Yang</td>
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<tr>
<td>1955</td>
<td>Harvey Mudd College</td>
<td>Maria Klawe</td>
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<tr>
<td>1962</td>
<td>National Association of College and University Business Officers</td>
<td>John Walda</td>
</tr>
<tr>
<td>1986</td>
<td>Council on Competitiveness</td>
<td>Deborah L. Wince-Smith</td>
</tr>
</tbody>
</table>
In the oft practiced Baroque tradition of adapting a different text to the same music.

There’s Just One!
G.F. Handel*

Hallelujah! Hallelujah! Hallelujah!
Graduation, jubilation, the time has come.
Hallelujah! Hallelujah!
Exaltation, adulation, the time is now!

Graduates on this day we salute you!
Sing praises, you’ve done it, it’s over, hallelujah!
For your accomplishments, we give honor.
Sing praises, you’ve done it, it’s over, hallelujah!

Praise on this day of great celebration!
You’ve done it, you’re through, no more take-homes, no problem sets, hallelujah!
No thesis, no flicking, no flaming, no more work, hallelujah!
No finals, no midterms, no more nights in the lab, hallelujah!

For there is life beyond quantum physics.
For there is life beyond the house alleys.
No research, no UASH, all-nighters are all gone,
No classes, no letters from the Dean!
Free weekends, real life begins!
With vision now go forth and seek a new horizon, and make your alma mater proud.
And she shall reign forever in science.

There’s just one!
  - in theories of protons, electrons and chem bonds.
Caltech can stun!
  - in science with rigor, in research with vigor.
There’s just one!
  - in rockets, in astro, in seismo, in neurons.
Tech is the sun:
  - with medals of science, with Nobel achievements.
There’s just one!
  - for ever exalted remember the Rose Bowl!
And now you’re done, you have won, hail new alum.

And you shall spread Tech’s passion for science.

New alum, Tech needs you, remit a sum, contribute!
For Tech to reign in science forever.
There’s just one! A star of stars!
There’s just one! Renown on Mars!

And Tech shall reign forever in science.
You’ve won the day, we shout hooray!

We honor your passion, your achievement, your triumph, hallelujah!

*Music: September 1741, George Frideric Handel
Text: April 2004, K. Giapis and D. Caldwell
Hail CIT
(Caltech Alma Mater)

by Manton Barnes, B.S. ’21 E.E.

In Southern California with grace and splendor bound,
Where the lofty mountain peaks look out to lands beyond,
Proudly stands our Alma Mater, glorious to see;
We raise our voices proudly, hailing, hailing thee.
Echoes ringing while we’re singing over land and sea,
The halls of fame resound thy name, noble CIT.
SERVICES FOR COMMENCEMENT GUESTS

- **PUBLIC TELEPHONES** are available in Baxter Hall and Beckman Auditorium.
- **RESTROOMS** are available in Baxter Hall, Beckman Labs, Dabney Hall, and Beckman Auditorium.
- Information about the nearest location for **FIRST AID SERVICES** is available at the Information Center.
- **LOST AND FOUND** items may be reported and/or claimed at the Information Center.
- Complimentary **COFFEE** and **PUNCH** (beginning at 8:30 a.m.)
- **CALTECH BOOKSTORE** sells souvenirs, film, and other items. **ATHENAEUM** luncheon tickets on sale 8–10 a.m.

**SPECIAL SERVICES FOR PERSONS WITH DISABILITIES**

- **ASSISTIVE LISTENING DEVICES** are available at the Information Center. A driver’s license or state-issued ID card is required.
- **LARGE-TYPE PROGRAMS** (abridged) are available at the Information Center.
- **AMERICAN SIGN LANGUAGE (ASL)** interpreters are stationed at the west front of the ceremony seating area.
- **PEOPLE WHO USE WHEELCHAIRS**, and their guests, will find a special section near the east front of the ceremony seating area.
- **RESTROOMS ACCESSIBLE TO PEOPLE WHO USE WHEELCHAIRS** are located on the first floor of Dabney Hall and of Baxter Hall.
- **AMPLIFIED TELEPHONE** is available in Beckman Auditorium.